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BOOK REVIEW

Bremer, K. 1994. *Asteraceae, Cladistics & Classification.* 752 pp. Timber Press, Inc., 9999 S. W. Wilshire, Suite 124, Portland, Oregon 97225. ISBN 0-88192-275-7. ($79.95, hardcover).

". . . the book is about cladistics, phylogeny, and evolution of the Asteraceae, based on analysis of morphological data. It is also a cladistic evaluation of existing subfamilial, tribal, and subtribal classification, and a reference to the generic classification of the family." From the Preface.

There are 4 preliminary chapters—Cladistics, pp. 5–11; Classification, pp. 13–23; Morphology, pp. 24–35; and Evolution, pp. 36–46. The bulk of the book, pp. 49–680, is a subfamily by subfamily, tribe by tribe, subtribe by subtribe, genus by genus discussion of the morphology and classification of the family. There is a 46 page list of References, and a 23 page index.

When reviewing a "new" classification one may emphasize the non-congruity of the new classification with the one(s) it is intended to replace, or one may emphasize the similarities between the classifications. Figure 1 illustrates the evolution of the Classification of the Compositae from George Bentham (in G. Bentham and J. D. Hooker, Genera Plantarum, vol 2(1), 1873) to Wagenitz (in the 12th edition of A. Engler, Syllabus der Planzenfamillien, 1964), to the classification offered here by Bremer. Basically, Bremer and his colleagues have rearranged groups of species and genera that have been recognized as natural groups for many years. The innovations consist in the recognition or resurrection of segregate genera and the removal of many genera to unfamiliar locations in the great scheme of things.

One nomenclatural treatment is interesting. There is a subfamily Cichorioideae and a genus *Cichorium.* But *Cichorium* is placed in the tribe Lactuceae, unassigned to a subtribe. According to the Code, Article 19, Bremer's tribe Lactuceae should be Cichoreae (since it includes *Cichorium*), and there should be a subtribe Cichorinae to include *Cichorium* (which is currently "unassigned to a subtribe").

Bentham 1873	Wagenitz 1964	Bremer 1994
Tribes:	Subfamily Asteroideae	Subfamily Barnadesioideae
Vernoniaceae	Vernonieae	Barnadesieae
Eupatoriaceae	Eupatorieae	
Asteroideae	Cardueae	Subfamily Cichorioideae
Inuloideae	Heliantheae	
Helianthoideae	Helenieae	Mutisieae
Helenioideae	Senecioneae	Cardueae
Anthemideae	Calenduleae	Lactuceae
Senecioideae	Inuleae	Vernonieae
Calendulaceae	Astereae	Liabeae
Arctideae	Anthemideae	Arctoteae
Cynaroideae	Arctotideae	
Mutisiaceae	Mutisieae	Subfamily Asteroideae
Cichoriaceae		
	Subfamily Cichorioideae	Inuleae
		Plucheeae
	Cichorieae	Gnaphalieae
		Calenduleae
		Astereae
		Anthemideae
		Senecioneae
		Helenieae
		Heliantheae
		Eupatorieae

Figure 1. A comparison of the classifications of Bentham, Wagenitz and Bremer.

Another point of interest is the omission of any discussion, or even mention of, ×*Solidaster* Wehrhahn (= ×*Asterago* T. H. Everett), the putative hybrid between *Aster ptamicoides* and an unknown *Solidago*. The plant has been known and cultivated in Europe since about 1910. Such a hybrid, if it does, in fact, have that parentage, might lead to some reconsideration of the subtribal placement of the *Aster* and *Solidago*.

There is here, a great deal of information and many provocative ideas. It will be of use for many years to come. However, only specialists in the Compositae will find it easy to use. At the practical level, the lack of indication of synonymy, the lack of indication of exactly where groups have been put, and the lack of indication of what species are included in which genera, makes the work difficult to use for non-synantherologists.

Many modern students seem to have forgotten that the two basic reasons for any classification are (1) to place similar (? = related) species together and (2) to facilitate the identification of

individual plants by individuals other than the author(s). Other inferences of great interest may well flow from such a classification, but they are secondary to the identification of individual plants.

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